

Northwest Indian Fisheries Commission Grant Program

FY 2012 Noncompetitive Tribal Projects for Restoration and Protection of Puget Sound

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Phone Number:	360-466-7203; Fax 360-466-1615
Grant Name:	NWIFC FY 2012 Noncompetitive Tribal Projects for Restoration and Protection of Puget Sound
Project Period:	June 1, 2011 – September 30, 2015
Project Officer Name and Address:	Tiffany J. Waters Northwest Indian Fisheries Commission 6730 Martin Way East Olympia, WA 98516
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1. **Project Title:** Coast Salish Tribal Journey Water Quality Project (TJWQP)

Work Plan Abstract:

Since 2008, the Coast Salish Nation and Swinomish Indian Tribal Community in partnership with the U.S. Geological Survey (USGS) has examined the coastal waters of the Salish Sea providing a new strategy that blends western science and Coast Salish culture to study water-quality and its effects on ecosystem dynamics. The foundation of the study is the annual Tribal Journey, whereby canoe families traveling their ancestral highways collect surface-water samples producing 4 or 5 simultaneous water property profiles across the Salish Sea. The results are disseminated near real-time via the web (www.usgs.gov/coastsalish) helping to identify impaired water bodies (e.g. algae blooms) and conditions worthy of subsequent study. In addition to *in-situ* water samples, canoe pullers and scientists, traveling together, collect observational data providing context for the quantitative data. Local indigenous knowledge shared during the Journey helps guide the TJWQP's focus and provides unprecedented opportunities to learn about the Salish Sea's natural history in ways science alone can not offer. The exchanges made between science and traditional knowledge within indigenous communities along the Journey facilitates increased awareness of ecosystem issues, conservation and stewardship.

Through the partnership, USGS provides valuable synthesis and interpretation of scientific measurements, helping to quantify environmental patterns, identify areas of impairment and through time, detect changes and trends related to land use and climate change. These results are used to implement follow-up studies with Coast Salish and partners seeking improved understanding of ecosystem vulnerability. The information collected during the annual Tribal Journeys can be used to advise Coast Salish Leadership in making policy decisions regarding Salish Sea resources.

2. **Tribe:** Swinomish Indian Tribal Community
3. **Project Location:** Salish Sea
4. **Eligible Activities to be Addressed:**
 - a. Activity E.3 Continually improve the scientific basis for management actions in Puget Sound through a comprehensive and prioritized regional science program
 - b. Activity E.4 Increase and sustain coordinated efforts for communication, outreach, and education to increase public awareness and encourage individual stewardship
 - c. Activity based exert from Grant Announcement
 1. For example, many Tribes submitted comments on the Action Agenda/CCMP, highlighting activities within it that need to be addressed as a high priority for Puget Sound area Tribes. (http://www.psp.wa.gov/downloads/AA2009/comment_summaries/Tribes.pdf). In addition, at the annual Coast Salish Gatherings, leaders of Coast Salish Tribes have identified priority concerns that affect many Tribes in the greater Puget Sound Basin, such as threats to traditional foods upon which Coast Salish depend; water quality and quantity; and impacts of climate change (<http://www.coastsalishgathering.com/01gathering/proceedings.shtml>). Documents such as these identify issues of exceptional concern among the broad scope of all Puget Sound protection and restoration issues and project
5. **Proposed Starting and Ending Dates:** January 1, 2012-December 31, 2012
6. **Project Coordinator:** Charles O'Hara, Swinomish Indian Tribal Community Planning Department, 11430 Moorage Way, La Conner, Wash. 360-466-4047 (fax), 360-466-7200
7. **Project Development:**

Need for Project: The Tribal Journey's Water Quality Project has grown into a meaningful trans-boundary data collection and information sharing tool for Tribes, First Nations, federal (EPA) and state (WA Department of Ecology) agencies, with applications to Washington State's biennial marine water quality assessments and 303(d) designations. Results are examined with Coast Salish partners, shared to the public via the web (www.usgs.gov/coastsalish) and through public presentations (<http://online.wr.usgs.gov/calendar/2009/oct09.html>), and are published in USGS and Coast Salish reports (Akin and Grossman, 2009; 2010, Akin and Grossman, 2011 in review).

Plans: TJWQP staff are actively planning for the 2012 (year 5) Journey to Squaxin Island and solicit assistance through this funding opportunity to conduct, analyze and report on the measurements made along the Tribal Journey. During the 2012 Tribal Journey to Squaxin Island, the TJWQP proposes to monitor water-properties (surface-water temperature, salinity, pH, dissolved-oxygen, and turbidity) along Tribal Journey pathways. Data will be compared using Washington State Water Quality criteria, highlighting the variability in water-quality across the Salish Sea. The 2012 Journey data

will be compared against previous years Journey results to highlight areas of concern and potential sites for future special studies by the TJWQP. This proposal section is a key element that provides information for the Puget Sound Partnership Action Plan under international outreach, public and cross agency information sharing.

Justification:

The TJWQP enters its fifth year in 2012 and has built strong collaborative relationships and scientific capacity to capture summer water quality conditions and quantify variability across the vast Salish Sea region. The proposed work will enable collection of data from canoes along principal routes of the Tribal Journey and their analyses relative to findings from 2008-2011. The canoe track data are unique in mapping out spatial patterns at multiple scales, detecting large-scale oceanographic/climate and site-scale land-use influences. In 2012 the TJWQP is proposing to add additional water-quality sampling dates around the Tribal Journey to provide temporal context to the summer track data. Additional sampling dates will be scheduled around canoe family practices with Squaxin Island and Swinomish. In addition to tracking water-quality monitoring, the TJWQP proposes to deploy three moored sondes (one at the Nisqually delta, Samish Bay, and Bellingham Bay) to monitor water properties throughout the year.

a. Project Tasks, Outputs, and Outcomes

Project Objectives and Tasks:

The Objectives of the Tribal Water Quality Project are two-fold:

1. Gather water-quality data across the Salish Sea to quantify variability, detect changes and trends, and identify impaired water bodies (primarily during the summer Tribal Journey).
2. Analyze data and synthesize results of TJWQP track results into maps, GIS data layers, and a report for public dissemination.

Project Outputs - Year 2

1. Conduct data collection, analysis, and provide report of the 2012 Tribal Journey Water Quality Project
2. Update website with 2012 results, presentations, and public outreach opportunities

Outputs - Years 3 through 6

Implementation of recommended actions developed in the Strategic Work Plan, possibly including:

1. Continue the water quality data collection and reach out to tribes and first nations, state, provincial and federal agencies for more inclusion and information sharing and potential partnerships in trans-boundary projects.
2. Strengthen the supplemental moored sonde water-quality studies of the TJWQP to quantify temporal changes, develop established station networks,

and strategically implement process-based studies based on results of the TJWQP and partner activities (see Synergies below).

Year 3 through 6 Synergies:

The canoe track results are combined with additional studies that are not part of this solicitation. Special studies include collection and analysis of (1) water-property depth profiles, (2) dissolved nutrients and plankton community composition in surface waters, (3) mooring deployments to continuously measure water-properties. Special studies are developed and conducted with partners as part of USGS-Coast Salish-partner efforts to examine (1) the spatial relation of nutrients and plankton community structure, (2) the extent of harmful algal blooms and the processes shaping them, and (3) impacts to habitat structure and ecosystem functions along gradients in urbanization, watershed activities, and regional oceanography. The results provide greater context of site-specific to regional water quality variability.

Outcomes:

Continuation of the water-quality data collection of the Salish Sea and expanding the research to include focused studies of temporal and topical issues of concern to Coast Salish (for example water-quality moorings, and possibly plankton and bloom dynamics/impacts, hydrodynamic processes affecting harvest areas) strengthen the partnerships and collaborations toward shared projects, information sharing, and trans-boundary opportunities, trainings and creating and enhancing communications and tools for sharing results with the public.

b. Project Timeline

Task Timeline	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	NOV	DEC
<i>Task 1: Gather Salish Sea Environmental Data</i>											
<i>Task 2: Data Analysis and Reporting</i>											

c. Project Cooperators:

- U.S. Geological Survey –Staff time is matched through USGS for project planning, data collection, and analysis of the special projects water samples. USGS and the Department of Interior provide salary support for USGS staff involvement and equipment for use toward the project and dissemination of results.
- Tribal Journey Canoe Families from across the Salish Sea volunteer space on their canoes to provide the base platform from which we conduct our research. In previous years Tribal support boats volunteered to help conduct special projects data collection.
- Additional need: If funds are not acquired to fulfill the remaining project budget, data collection, analysis and reporting will still occur with amendments made to

the sampling design. The modified work plan for the base project would include canoe track data collection along two or three routes (South Puget Sound and North Georgia Strait being the primary focus) instead of five routes. Volunteer staff and equipment loans/donations will also be solicited to fulfill unmet funding needs.

d. Project Management:

The project management will be overseen by Charles O'Hara, Swinomish Planning Director. Through regular meetings with key staff and project consultants the project's timelines, deliverables, and reports will be evaluated to insure that project goals are met. Funding for this position is written into the Swinomish Indian Tribal Community annual budget.

8. Budget- Total Budget for Year Two:

Budget Narrative:

The proposed EPA Y2 budget will be used to fund the Tribal Journey Coordinator position. This position is the highest priority for funding because the responsibilities include program management, coordination, data collection and analysis, as well as reporting and outreach for the TJWQP. If the award is granted, the Tribal Journey Coordinator position will be funded at 62% FTE through December 2012. Funds will also be used to cover travel associated with the data collection phase of the TJWQP. Swinomish Indirect costs have been waived for this project.

Detail Budget

Tribal Journey Water Quality Project 2012

						EPA FY2 Contribution	EPA FY3-6 Contribution
SALARY/BENEFITS	Per Hr	Hours	FTE	Total Cost	Budget		
Tribal Journey Coordinator	\$ 21.86	1290	62%	\$ 28,199			
Total		1290			\$ 28,199	\$ 28,199	\$ 112,798

BENEFITS	Fringe			Total Cost			
Tribal Journey Coordinator	56%			\$ 15,792			
Total					\$ 15,792	\$ 15,792	\$ 63,167

TRAVEL	Cost	Quantity	Unit	Total			
Mileage: Car	\$ 0.510	900	miles	\$ 459			
Per Diem (average location \$61)	\$ 61	9	days	\$ 549			
Total				\$ 1,008	\$ 1,008	\$ 1,008	\$ 4,032

DIRECT TOTAL					\$ 43,991	\$ 44,999	\$ 179,996
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Objective 1: Gather Salish Sea Environmental Data	Task	Tribal Staff	Hours	Price (\$/hr)	Salary	Fringe (56% of salary)	Travel	EPA Request FY 2
Task 1A Project Planning and Coordination	Facilitate and Administrative Tasks	Tribal Journey Coordinator	300	\$21.86	\$6,558	\$3,672		\$10,230
Task 1B Data Collection Canoe Tracks	Support Technicians/Collect WQ Data	Tribal Journey Coordinator	160	\$21.86	\$3,498	\$1,959	\$508	\$5,964
Task 1C Data Collection Supplemental Projects	Buoy based Water Quality Monitoring	Tribal Journey Coordinator	100	\$21.86	\$2,186	\$1,224	\$500	\$3,910
	Objective 1 Totals		560		\$ 12,242	\$6,855	\$1,008	\$20,105

Objective 2: Data Analysis and Reporting	Task	Tribal Staff	Hours	Price (\$/hr)	Salary	Fringe (56% of salary)	Travel	EPA Request FY 2
Task 2A Canoe Track Data Processing and Analysis	Data Entry and Record Keeping	Tribal Journey Coordinator	60	\$21.86	\$1,312	\$734		\$2,046
	Data Analysis	Tribal Journey Coordinator	120	\$21.86	\$2,623	\$1,469		\$4,092
	Reporting	Tribal Journey Coordinator	230	\$21.86	\$5,028	\$2,816		\$7,843
	Supporting research and development	Tribal Journey Coordinator	30	\$21.86	\$656	\$367		\$1,023
Task 2B Supplemental Projects Data Processing and Analysis	Data Entry and Record Keeping	Tribal Journey Coordinator	30	\$21.86	\$656	\$367		\$1,023
	Data Analysis	Tribal Journey Coordinator	80	\$21.86	\$1,749	\$979		\$2,728
	Reporting	Tribal Journey Coordinator	180	\$21.86	\$3,935	\$2,203		\$6,138
	Objective 2 Totals		730		\$15,958	\$8,936	\$0	\$24,894

	Hours	Price (\$/hr)	Salary	Fringe (56% of salary)	Travel	EPA Request FY 2
Check	1,290	\$ 21.86	\$ 28,199	\$ 15,792	\$ 1,008	\$ 44,999

References:

- Akin, S.K., and Grossman, E.E., 2011, Coast Salish and U.S. Geological Survey 2011 Tribal Journey water quality project: United States Geological Survey Open-File Report 2011-XXX, X p. [In Review].
- Akin, S.K., and Grossman, E.E., 2010, Coast Salish and U.S. Geological Survey 2010 Tribal Journey water quality project: United States Geological Survey Open-File Report 2010-1143, 60 p. [<http://pubs.usgs.gov/of/2010/1143/>].
- Akin, S.K., Grossman, E.E., Lekanof, D., O'Hara, C., 2009, Coast Salish and U.S. Geological Survey: Tribal Journey water quality project, Coast Salish Gathering Report 2009-001, 58 p. [last accessed March 1, 2010, at <http://walrus.wr.usgs.gov/reports/reprints/TJWQP.pdf>]